IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An apparatus comprising:

a physiological sensor that includes at least one biocompatible body, the body sized and shaped to be implanted within a subject to contact tissue, at least a portion of the body including a material having at least one physical property that changes in response to a physiological condition when that portion of the body is implanted in contact with the tissue, wherein the change in the at least one physical property occurs because of the contact between that portion and the tissue, wherein the portion of the body is sized and shaped such that the change in the physical property is detectable using acoustic energy to provide an indication of the physiological condition.

2. (Original) The apparatus of claim **1**, in which the change in the physical property includes a change in size.

3. (Original) The apparatus of claim **1**, in which the change in the physical property includes a change in stiffness.

4. (Original) The apparatus of claim **1**, in which the change in the physical property includes a change in acoustic reflection from the body.

5. (Original) The apparatus of claim **1**, in which the change in the physical property includes a change in acoustic transmission by the body.

6. (Original) The apparatus of claim **1**, in which the change in the physical property includes a change in acoustic attenuation by the body.

7. (Original) The apparatus of claim **1**, in which the body is sized and shaped to be introduced within a myocardium of a subject.

8. (Original) The apparatus of claim **1**, in which the body includes a sphere.

9. (Original) The apparatus of claim **1**, in which the body comprises at least a portion of a catheter.

10. (Original) The apparatus of claim **1**, further comprising an acoustic transmitter to provide acoustic energy to the body and the tissue.

11. (Original) The apparatus of claim **10**, further comprising an acoustic receiver to receive acoustic energy from at least one of the body and the tissue to detect the change in the physical property of the body in response to the change in the physiological condition of the subject.

12. (Original) The apparatus of claim **11**, further comprising a signal processor circuit coupled to the acoustic receiver.

13. (Original) The apparatus of claim **12**, further comprising a user interface, coupled to the signal processor circuit, the user interface comprising a display that includes at least one indicator that includes information about at least one of the change in the physiological condition and the change in the physical property.

14. (Original) The apparatus of claim **13**, in which the user interface includes an external programmer.

15. (Original) The apparatus of claim **13**, in which the user interface includes a computer that is communicatively coupled to the signal processor circuit at least in part over a computer network or telephony network.

16. (Original) The apparatus of claim **1**, in which the at least one biocompatible body is pH sensitive.

17. (Original) The apparatus of claim **1**, in which the at least one biocompatible body is ion selective.

18. (Currently Amended) A system comprising:

a plurality of biocompatible spheres, each sphere sized and shaped to be disposed within and to contact a myocardium of a subject, each sphere including at least one physical property that changes in response to a physiological condition of the subject as a result of the contact with the myocardium;

an acoustic transmitter, to provide energy to the spheres and the myocardium; and

an acoustic receiver, to receive energy from at least one of the spheres and the myocardium.

19. (Currently Amended) A method comprising:

introducing a physiological sensor that includes at least one body into contact with a tissue, wherein the body includes at least one physical property that changes as a result of the contact with the tissue in response to a physiological change associated with the tissue;

transmitting acoustic energy to the body and the tissue;

receiving transmitted acoustic energy for detecting the change in the physical property of the body; and

detecting and providing an indication of the physiological change by detecting the change in the physical property of the body.

20. (Original) The method of claim **19**, in which the introducing the at least one body includes introducing at least one pH sensitive body.

21. (Original) The method of claim **19**, in which the introducing at least one body includes introducing at least one ion sensitive body.

22. (Original) The method of claim **19**, in which the physical property that changes is a size of the body.

23. (Original) The method of claim **19**, in which the physical property that changes is a stiffness of the body.

24. (Original) The method of claim **19**, in which the physical property that changes is an acoustic reflection of the body.

25. (Original) The method of claim **19**, in which the physical property that changes is an acoustic transmission of the body.

26. (Original) The method of claim **19**, in which the physical property that changes is an acoustic attenuation of the body.

27. (Original) The method of claim **19**, in which the detecting the change in the physical property of the body comprises detecting an acoustic reflection of the body.

28. (Original) The method of claim **19**, in which the detecting the change in the physical property of the body comprises detecting an acoustic transmission of the body.

29. (Original) The method of claim **19**, in which the detecting the change in the physical property of the body comprises detecting an acoustic attenuation of the body.

30. (Original) The method of claim **19**, in which the introducing the at least one body includes introducing at least one sphere.

31. (Original) The method of claim **19**, in which the introducing the at least one body includes introducing a catheter.

32. (Original) The method of claim **19**, in which the introducing the at least one body includes introducing the at least one body into a myocardium.

33. (Original) The method of claim **19**, in which the introducing the at least one body includes introducing the at least one body into at least one coronary artery.

34. (Original) The method of claim **19**, in which the detecting the physiological change using the detected change in the physical property of the body comprises detecting ischemia using the detected change in the physical property of the body.

35. (Original) The method of claim **19**, in which the detecting the physiological change using the detected change in the physical property of the body comprises detecting blood flow using the detected change in the physical property of the body.

36. (Previously Presented) The method of claim **19**, further comprising introducing a catheter for at least one of the transmitting the acoustic energy and the receiving the acoustic energy.

37. (Previously Presented) The apparatus of claim **1**, in which the material includes at least one electrical property that changes in response to a physiological condition.

38. (Previously Presented) The apparatus of claim **1**, in which the body is sized and shaped to be introduced within a vein or artery of a subject.

39. (Previously Presented) The system of claim **1**, wherein the physical property changes in response to a physiological condition that is predictive of a tachyarrhythmia.

40. (Previously Presented) The system of claim **18**, comprising an implantable medical device including a state that is altered using a change in the physical property.

41. (Previously Presented) The apparatus of claim **18**, further comprising a controller circuit coupled to the acoustic receiver.

42. (Previously Presented) The apparatus of claim **41**, further comprising an external interface, coupled to the controller circuit, the external interface configured to receive information based on the change in the physical property.

43. (Currently Amended) A system comprising:

a physiological sensor that includes one or more biocompatible bodies, the one or more bodies sized and shaped to be implanted within a subject to contact tissue, at least a portion of the one or more bodies including a material having at least one physical property that changes in response to a physiological condition when that portion of the body is implanted in contact with the tissue, wherein the change in the at least one physical property occurs because of the contact between that portion and the tissue, and wherein the at least a portion of the one or more bodies is sized and shaped such that the change in the physical property is detectable using acoustic energy to provide an indication of the physiological condition; and

an implantable medical device, including one or more acoustic transducers configured to provide acoustic energy to the one or more bodies and to receive responsive acoustic energy, the implantable medical device configured to detect and provide an indication of a change in the physiological condition by using the responsive acoustic energy to detect the change in the physical property of the one or more bodies.

44. (Previously Presented) The system of claim **43**, wherein the implantable medical device includes an intravascular lead that includes one or more acoustic transducers.

45. (Previously Presented) The system of claim **43**, comprising:

a first acoustic transducer, disposed within the implantable medical device; and

a second acoustic transducer, disposed on a lead or catheter coupled with the implantable medical device.

46. (Previously Presented) The system of claim **43**, wherein the implantable medical device includes a controller that initiates or modifies a therapy using the detected change in the physiological condition obtained from the responsive acoustic energy.

47. (Previously Presented) The system of claim **43**, wherein the implantable medical device includes a controller that is adapted to determine whether ischemia is present in response to a change in physical property obtained from the responsive acoustic energy.

48. (Previously Presented) The system of claim **47**, comprising:

multiple pacing electrodes disposed at different locations within a subject, the electrodes communicatively coupled with the controller; and

wherein the controller is adapted to modify the selected electrodes or timing of pacing pulses delivered by the electrodes in response to a determination of ischemia.